

CLAIMS:

1. A valve assembly comprising:
a valve body including a valve seat surrounding a valve outlet,
a valve stem having a head portion adapted to contact and form a seal with
5 the valve seat when the valve is in a closed state, the valve stem having an
elastically deformable portion which is deformed when the valve is in the open
position thereby providing a restorative force to bias the head portion towards
contact with the valve seat, and
additional biasing means mounted between the valve body and the valve
10 stem to urge the head portion towards contact with the valve seat.
2. A valve assembly as claimed in claim 1, wherein the valve stem comprises
a substantially cylindrical portion having at one end the valve head portion and at
the other end a flared portion which forms the elastically deformable portion.
3. A valve assembly as claimed in claim 2, wherein the flared portion is
15 substantially cup or hemispherically shaped.
4. A valve assembly as claimed in claim 1, wherein the valve stem is hollow
with a closed end at the head portion and the additional biasing means is mounted
within the valve stem.
5. A valve assembly as claimed in claim 1, wherein the additional biasing
20 means comprise a spring means.
6. A valve assembly as claimed in claim 5, wherein the spring means is a
helical compression spring having a valve body end with a larger diameter than a
valve head end so that the valve head end of the spring means fits within the valve
stem and contacts the closed end portion and the valve body end of the spring
25 means contacts mounting means within the valve body.

7. A valve assembly as claimed in claim 5, wherein the spring means is a substantially cylindrical helical compression spring having a diameter smaller than the inside diameter of the cylindrical portion of the valve stem and the valve body includes mounting means on which a support plate is mounted which supports the valve body end of the spring means.

8. A valve assembly as claimed in claim 7, wherein the support plate comprises a circular disk which supports the open end of the valve stem and also includes a central post over which the valve body end of the spring means is positioned.

9. A valve assembly as claimed in claim 7, wherein the valve stem comprises a substantially cylindrical portion having at one end the valve head portion and at the other end a flared portion which forms the elastically deformable portion and the support plate has a diameter substantially equal to the outside diameter of the flared portion of the valve stem and an annular ridge is provided on the valve stem side of the support plate, the annular ridge having an outside diameter substantially equal to the inner diameter of the flared portion so that the flared portion is supported at the outer edge of the support plate.

10. A valve assembly as claimed in claim 9, wherein the annular ridge has an outwardly sloped outer surface.

11. A valve assembly as claimed in claim 7, wherein the valve body comprises an upper plate in which the valve outlet is provided and a support frame which suspends the mounting means of the support plate beneath the valve opening.

12. A valve assembly as claimed in claim 11, wherein the support frame comprises at least three support posts extending substantially perpendicularly from the upper plate, the distal ends of adjacent support posts connected by joining members which form said support means for said support plate.

13. A fluid outlet port including the valve assembly according to claim 1 and an outlet conduit connector adapted for connection to the outlet port, wherein the outlet conduit connector includes an engagement element which engages with the valve stem head and moves the valve to the open position.